

GOAL

To Double the Rate of Hispanics Earning a Bachelor's Degree

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PREFACE

Meeting the educational needs of the fastest growing community in the nation—the Latino community—is vital to the future and in the best interest of this country. Toward this end, the Hispanic Scholarship Fund (HSF) has worked for the past 25 years to provide a “financial vote of confidence” to Hispanic students who have overcome extraordinary social and academic barriers to enroll in the undergraduate and graduate institutions across the United States.

At its inception, HSF’s founders committed to strengthen America by supporting Latino higher education. Our mission was to become this country’s premier scholarship fund for Latino students. Since then, HSF has awarded more than 47,000 scholarships totaling in excess of \$58 million to Latinos, from all 50 states and Puerto Rico, who have attended more than 1,300 colleges and universities.

As HSF’s efforts have grown over the years, so have the needs of this country’s Latino students. In response to this, HSF has continued to increase its capacity to serve Latino students and support their pursuit of higher education. HSF is now the largest Hispanic scholarship-granting organization in the nation.

In 1996, we recommitted to our founding vision but expanded our endeavors by adopting a new mission—to double the rate of Latinos earning a college degree from 9 percent to 18 percent by 2006. In moving forward with this compelling mission, we knew we had to answer two questions. One, what difference had HSF made in the college completion rates of its scholarship recipients? And, two, what would it take to double the rate of Latinos earning their college degrees?

To address the first question, in 1998, HSF commissioned Harder+ Company to evaluate its work. We are most proud that 97 percent of our scholarship recipients earned their bachelor’s degrees. Of those not currently in school, 43 percent went on to graduate school. More than 88 percent of HSF Scholars earn more than the national per capita median income. And almost 60 percent earn at least double the Latino median income. Finally, almost two-thirds “give back” by doing volunteer work in their communities.

These scholars overcame significant obstacles. More than 40 percent of their fathers and 36 percent of their mothers did not have a high school diploma. In one generation, HSF’s support enabled Latinos to go from non-diploma to college degree, breaking the cycle of under-education, inadequate employment, lower median income, and a lessened ability to support their children’s higher education dreams.

In 1999, HSF received a landmark \$50 million grant from Lilly Endowment, Inc. This grant has funded the expansion of HSF’s scholarship programs and given HSF the ability to start mobilizing the Latino community to support Latino students. It also gave

HSF the capacity to commission research by RAND to not only address the second issue—what must we do to double the rate of Latinos graduating from college—but also to quantify the benefits and costs of achieving this new mission.

We are very grateful to Lilly Endowment, Inc. Without their belief in HSF's work and this country's Latino students, we would not have been able to conduct the analysis required to build a road map for success.

HSF will use this analysis to develop our work and begin a national dialogue with leaders across the country as together we strive to meet the educational needs of the Latino community. We hope you join us in "Opening American Minds."

Sara Martinez Tucker

President and CEO

Hispanic Scholarship Fund

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SUMMARY

Hispanics are the fastest growing minority group in the United States. They are projected to contribute two-thirds to the growth in the size of the high-school-age population over the next decade. By 2010, Hispanics will make up one out of every five young people of high school age, compared with one in ten in 1990. Yet, Hispanics lag behind all other racial/ethnic groups in the rate at which they earn a bachelor's degree. After doubling this rate over the 1970 to 1990 time period, Hispanics have made no further progress. In 1998, 10 percent of Hispanics aged 25 to 29 held a bachelor's degree, compared with 32 percent of non-Hispanic whites. This is a difference of 22 percentage points, the largest gap in the last 30 years.

The educational disparity between Hispanics and other racial/ethnic groups is a subject of widespread concern. Not only does it reduce the economic opportunities for a growing population of Americans, but it contributes to the economic and social divide in American society—a chasm that is increasingly drawn along the lines of ethnicity and race. The low average level of education of Hispanics also has implications for the economy. In 2000, one of every five new entrants into the workforce was Hispanic—and that number is growing.

Recognizing the risks posed by these trends, the Hispanic Scholarship Fund (HSF) set the goal of doubling the rate at which Hispanics earn a bachelor's degree. To better understand what this goal would entail, HSF asked RAND to examine the implications of current trends and the costs and benefits of different approaches toward meeting the goal within 10 years. The study found that a combination of strategies focusing on all levels of education could double the college graduation rates of Hispanics and that the benefits of achieving this goal would far outweigh the cost of accommodating the increase in school and college enrollment. Even including the extra costs for a range of programs that will be needed to support Hispanic students to continue their education and stay in school, the public would still gain in the form of increased revenues generated over the lifetime of the cohorts of Hispanics that would graduate from college.

DEMOGRAPHICS AND THE HISPANIC EDUCATION DEFICIT

About half of the Hispanics living in the United States were born and educated in the countries they came from. Most of them have had only low levels of education in their home countries and have never entered American schools. This large group of foreign-born Hispanics has a strong downward effect on the education statistics for Hispanics as a whole. For example, looking at the most recent statistics (1998), only 50 percent of foreign-born Hispanics had high school diplomas compared with 80 percent of native-born Hispanics. Of those immigrants with high school diplomas, only 20 percent

went on to college, compared with 50 percent of Hispanic U.S. natives. In fact, foreign-born Hispanics are the only immigrants who have a lower level of education than their native-born counterparts. Because they make up half of all Hispanics in the United States, they pose a special challenge in meeting the goal of doubling college graduation rates.

Although the percentage of Hispanics age 25 or older who graduate from college is projected to increase to 12 percent in 2010 (up from 10 percent in 1998) as a younger, better-educated generation replaces the older generation, the college education gap between Hispanics and other ethnic/racial groups is expected to further increase. At the lower end of the education distribution, the share of Hispanics among high school dropouts is projected to reach 32 percent in 2010 (double what it was in 1990). Hispanics are projected to be the only racial/ethnic group to experience an increase (about 15 percent) in the number of high school dropouts between 2000 and 2010.

Two related trends pose significant obstacles to overcome in order to meet the goal. First, a decade from now, more Hispanic children (approximately 20 percent more) will be living in families in which both parents have less than a high school education. They will account for half of all children in such families, up from one-third in 1990. Because the level of education of parents is closely correlated with the level their children reach, this increase will hold down Hispanic attainment unless measures are implemented to break this correlation. Second, the number of Hispanic children living in poor families is expected to increase by 25 percent in the next decade. By 2010, about 45 percent of Hispanic children are projected to live in such families.

The geographic concentration of Hispanics poses another challenge for meeting the education goal. More than one-third of all Hispanic young people (age 24 or younger) live in California. Another 20 percent live in Texas. New York, Florida, and Illinois combined are the home states of another 25 percent of Hispanic children. These five states will have to carry the responsibility of educating Hispanics in the near future.

BENEFITS AND COSTS OF MEETING THE GOAL

Doubling the rate of Hispanics earning a bachelor's degree would provide many individual and public benefits, from increased disposable family income that results from greater job opportunities to decreased income disparities among racial/ethnic groups. This study focuses on the monetary benefits that would accrue to the taxpayers who would be making the initial investment to accommodate increasing numbers of Hispanics in the education system and implement programs to help them succeed. These public benefits come in two forms: (1) revenues saved in public welfare, health, and law enforcement programs and (2) revenues earned from increased taxes and contributions to Medicare and Social Security.

Combining all these revenues over the lifetime of the cohort of Hispanics graduating from college in 2010 provides the total public revenues that would result from meeting the goal. That figure is about \$13 billion in present-value dollars. It includes \$5.4 billion from reduced public spending for social and health programs and \$7.6 billion in increased tax contributions. Of course, these revenues accumulate over time. It would take 13 to 15 years for the public to recover the investment required to meet the goal by 2010.

To estimate the costs of meeting the goal, the study considered three sets of strategies that focus on different levels of the education system: (1) those that intervene in the middle school and high school to keep students in school and improve their preparation for college work; (2) those that focus on the transition from high school to college with programs such as test-taking preparation, remedial courses, summer courses, tutoring, and college trips; and (3) those that focus on keeping students in college until they graduate. Current programs focus almost exclusively on the first strategy. Analysis showed, however, that the only way to achieve dramatic improvements in college graduation rates among Hispanics is through a combination of all three strategies. Hispanics will have to close the current education gap with non-Hispanic whites by 85 percent in high school graduation, college attendance, and college graduation rates in order to double the rate at which they earn a bachelor's degree by 2010. In addition, Hispanic immigrants will have to complete as much of their education in the United States as native-born Hispanics of similar age and education level.

Doubling the rate at which Hispanics earn a bachelor's degree would mean increases in enrollment of about 2 percent in the nation's high schools, and 8 percent in colleges. These estimated increases in enrollment would be in addition to a 10 percent increase over the next decade required to accommodate the growth in the number of college age students under current college-going rates. These increases in enrollment would not be distributed evenly throughout the nation. For instance, in California, which will educate nearly 40 percent of the nation's Hispanics, meeting the goal would mean an increase in enrollment of 20 percent in the state's universities and colleges on top of a projected increase in college enrollment of up to 30 percent simply to accommodate growth in college age cohorts.

How much would it cost to double the rate of Hispanics earning bachelor's degrees? There are two types of costs: (1) investment needed to expand the capacity of high schools and colleges to meet the needs of this additional contingent of Hispanic students and (2) investment in programs that will help prepare and motivate students for higher levels of education. Operating and capital costs are estimated at about \$6.5 billion. Comparing this figure with the \$13 billion estimate of total benefits to the public provides a benefit-to-cost ratio of 2 to 1. Adding private benefits to the public revenues would yield a ratio of 4 to 1.

Costs for support programs targeted to the needs of Hispanic students are more difficult to estimate. An estimated increase of several hundred million dollars in financial assistance would be required to fully meet the needs of college-bound Hispanics. In addition, other programs must address the most important obstacles to continuing education that young Hispanics face. These include the special difficulties of at-risk children whose parents lack a high school education and who often live in poverty, and the need for remedial courses to achieve proficiency in English and mathematics. Such programs could cost anywhere from \$300 to \$6,000 per student. Yet, even if the highest cost were assumed, the public would still reap more revenues than it would expend on meeting the goal.

RECOMMENDATIONS

The report makes the following recommendations:

- Raise public awareness of the need for greater investments in postsecondary education.
- Increase the capacity of the nation's postsecondary institutions, especially those located in California, Florida, Illinois, New York, and Texas.
- Focus as much attention on keeping students in college as is currently given to preventing students from dropping out of high school.
- Coordinate interventions across all levels of education.
- Increase both the amount and the availability of financial assistance.
- Support expansion of high school-, community-, and college-based programs for at-risk students.
- Support evaluation of existing programs and experimentation with new programs.

ACKNOWLEDGMENTS

We want to thank Sarah Martinez Tucker, President of the Hispanic Scholarship Fund, for initiating and supporting this effort. She helped shape the research questions and encourage us to think strategically.

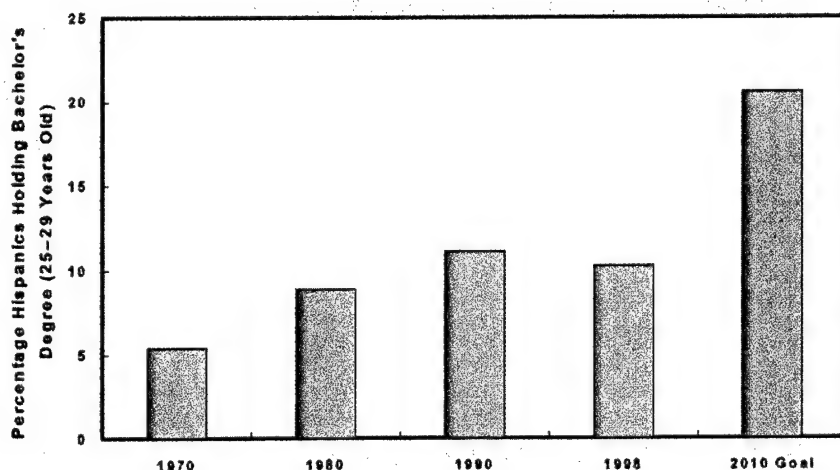
We also want to acknowledge the contributions of the late C. Peter Rydell, who first developed the RAND Education Simulation Model upon which our estimates are based, and Richard A. Krop, who originally quantified the relationship between education and dependency on public welfare and health programs.

Our RAND colleague Robert Lempert and Sarita Brown, President of the Hispanic Scholarship Fund Institute, reviewed a draft of this documented briefing and made substantive suggestions that contributed to a better product. We are, however, solely responsible for the report's conclusions and shortcomings.

Finally, our thanks to Laura Zakaras, Miriam Polon, and Nancy DelFavero who made this documented briefing more readable, and to Christopher Cross, who typed several drafts with good humor.

I. INTRODUCTION

Goal: To Double the Rate of Hispanics Earning a Bachelor's Degree



The continuing low rate at which Hispanics go to college and graduate from college with a bachelor's degree is of concern for several reasons:

- Recent shifts in the American and global economy mean that those who lack a college education will find their opportunities and economic mobility severely restricted. Our service-based economy requires a level of knowledge and skill that, for the most part, can be gained only through programs offered at colleges and universities.¹
- Hispanics are an increasing share of new entrants in the labor force. In 2000, one of every five new entrants in the labor force was Hispanic. The health of the national economy is growing more dependent on the skills and knowledge of Hispanic workers.
- Disparities in the education levels and income of Americans are increasingly drawn along the lines of ethnicity and race, with Hispanics and blacks on the lower end and non-Hispanic whites and Asians on the upper end. Such polarization poses a threat to America's social order.

Demographic trends assure that Hispanics will play an increasing role in the nation's economic, social, political, and cultural life. The level of education they achieve will largely determine whether their role is commensurate with their demographic importance and whether they partake in the full benefits of living in the United States.

Recognizing these trends and the risks they pose to the nation, the Hispanic Scholarship Fund (HSF) has set the goal of doubling the rate at which Hispanics earn a bachelor's degree over the next decade or so. It is an ambitious goal. Although the rate at

which Hispanic natives completed college doubled in the 1970s and increased by 40 percent in the 1980s, advances stopped in the 1990s. Today, Hispanics trail all other racial/ethnic groups in college completion.

The HSF asked RAND to examine this goal in terms of four questions:

- What are the trends in the population and educational achievement of Hispanic youth?
- What would be the effects of these trends if they continue for the next decade?
- What would be the benefits and costs of meeting the goal?
- What are the main roadblocks to achieving this goal?

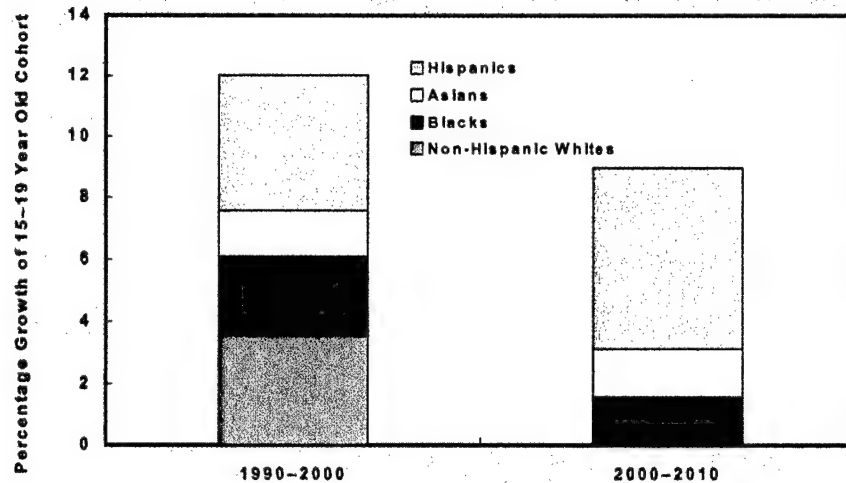
This report addresses each of these questions in turn and concludes with policy recommendations.

II. WHAT ARE THE TRENDS IN THE POPULATION AND EDUCATIONAL ACHIEVEMENT OF HISPANIC YOUTH?

Within the next decade, Hispanics are projected to account for two-thirds of the growth in the college-age population. These Hispanic youths will reside primarily in five states: California, Florida, Illinois, New York, and Texas. Immigrants and their children will be the major contributors to this growth.

This section reviews these demographic trends and the differences in educational attainment between Hispanic immigrants and native-born students, as well as differences among Hispanics from different countries of origin.

Hispanics Lead the Growth of the College-Bound Population

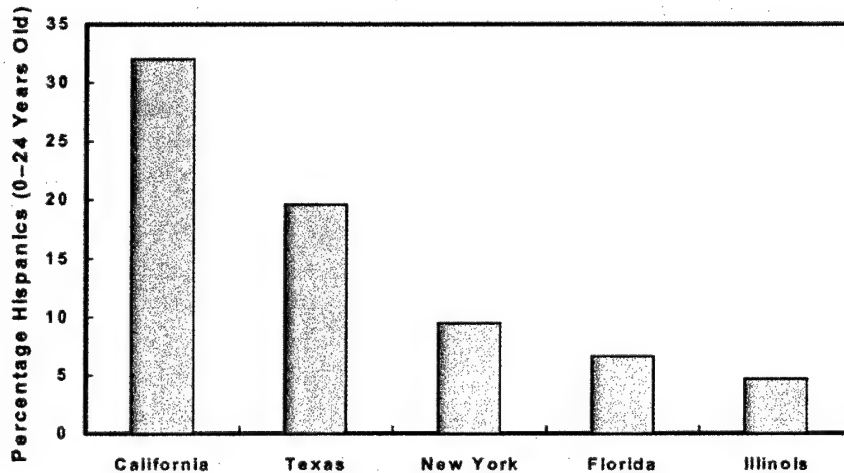


From 1990 to 2000, the population of Americans 15 to 19 years of age grew by 2.2 million. Hispanics contributed more than one-third of this growth.² Because top colleges and universities have not increased their capacity, this growth in the population of college-bound students is one of the main reasons behind the growing competition high school seniors are facing for admission to the colleges of their choice.

The growth in the 15 to 19 age population is projected to continue, although by a somewhat lower rate—9 percent during the next decade (compared with 12 percent in the past decade).³ Hispanics are expected to comprise two-thirds of this growth and blacks and Asians the remaining one-third. For the first time, the number of non-Hispanic whites of high school age is projected to remain the same or decline slightly. By 2010, Hispanics will make up one of every five high-school-age youth, compared with one in ten in 1990.

Unless a concerted investment is made to accommodate this continuing growth and shift in the composition of the high-school-age population, the competition for places in the nation's colleges and universities will further increase and further restrict opportunities for Hispanics in higher education.

The Vast Majority of Hispanics Are Educated in Just a Few States



The task of educating Hispanics will continue to fall primarily on just five states. More than one-third of Hispanics aged 0 to 24 live in California, 20 percent live in Texas, and another 25 percent reside in New York, Florida, and Illinois combined.⁴

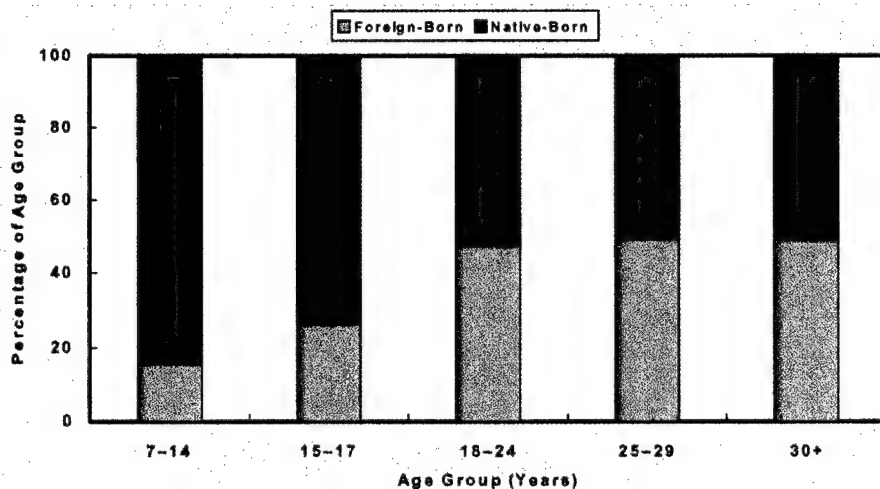
In these five states, the share of Hispanics in the high-school-age population has increased steadily. In California, for instance, the share of Hispanics aged 15 to 17 has increased from 24 percent in 1980 to 35 percent in 1990, and it is estimated to have reached 45 percent in 2000.⁵

Within these states, the majority of Hispanics are being educated in the school districts of the largest metropolitan areas. Today, Hispanics constitute the majority of students enrolled in schools in Los Angeles, Houston, Miami, and Dallas. In New York City schools, more than one-third of the pupils are Hispanic.⁶

According to the 2000 Census, the past decade has also seen a growing number of Hispanics, primarily immigrants, settling in states and localities outside the five core states and large metropolitan areas where they have traditionally settled, a trend that is profoundly affecting the schools in these new settlement areas. In contrast to the 28 percent increase in the Hispanic population of the five core states, it is estimated that the Hispanic population in the rest of the nation has grown by a striking 94 percent.⁷

In spite of this increasing geographic dispersal of Hispanic immigrants, the largest number of Hispanics will continue to be educated in the five core states at least for the next decade and probably beyond.

Many Hispanics Are Educated in Their Native Countries

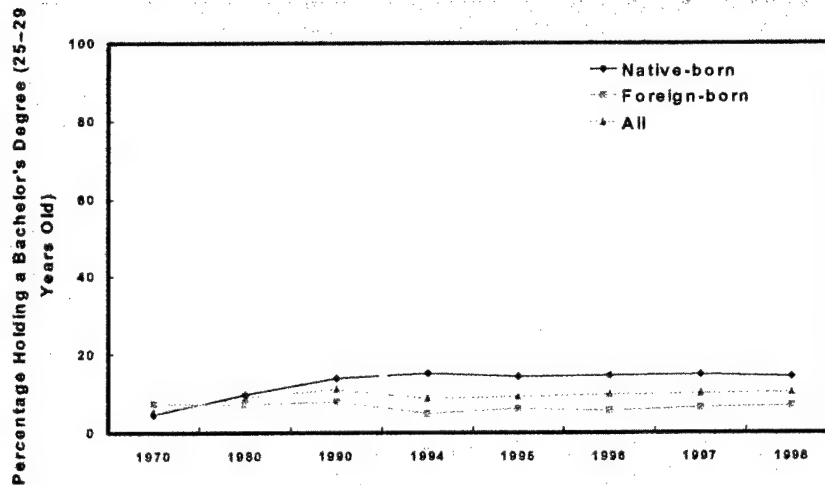


About half of today's Hispanics were born and educated outside the United States. Because immigrants typically enter the country as young adults, the share of foreign-born in the Hispanic population increases with age. Less than 4 percent of Hispanic immigrants are 14 years old or younger when they immigrate. Of that 4 percent, all or most get their schooling in the United States. And their educational attainments resemble those of native-born Hispanics: They graduate from high school, go to college, and graduate from college at the same rate or at a higher rate than their native-born counterparts.⁸ Among Hispanics 14 years old or younger, about one in six is foreign-born.

Another larger group of Hispanic immigrants arrives in the United States when they are of high-school age (15 to 17 years old). Most of them come from Mexico and have been out of school for two to three years before they enter the United States. These young Hispanics present a special problem. Because they must work to support themselves and their families, they either do not enroll in U.S. schools or drop out within a short period of time. Although there are about 100,000 such immigrant Hispanic youth in the United States at any one time, there are no special programs designed to reach out to them and address their unique educational situation.⁹ Among Hispanics of high school age, about one in four is foreign-born.

Most Hispanic immigrants enter the country between the ages of 18 and 24. Within this age group, about half of the Hispanic population in the United States is foreign-born. Most of those who are foreign-born had little education in their home countries, and the vast majority do not enter school again in the United States.¹⁰

Averaging the Education of All Hispanics Underestimates the Performance of Hispanics in U.S. Schools and Colleges



This figure shows that there are considerable differences in the educational achievement of native-born and foreign-born Hispanics: Hispanic immigrants are about half as likely to have a bachelor's degree than Hispanic natives (7 percent versus 14.5 percent, respectively, in 1998). Those numbers reflect the differences in their high school graduation rates: Only 50 percent of Hispanic immigrants graduated from high school in 1998 compared with 80 percent of Hispanic natives. It also reflects the lower rates at which they went to college—20 percent of immigrants compared with 50 percent of Hispanic natives.¹¹

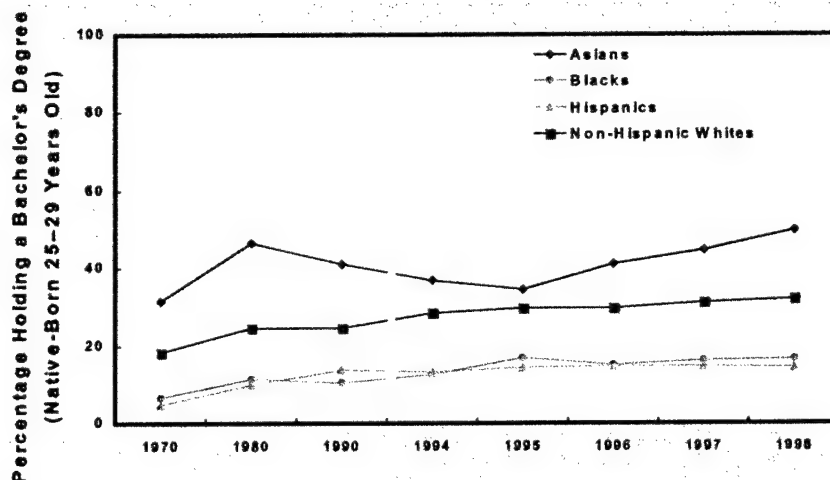
Hispanics are the only immigrants who have a lower level of education than their native-born counterparts. All other immigrants, whether Asians, blacks, or non-Hispanic whites, have levels of education that exceed those of their native-born counterparts. For instance, 51 percent of Asian immigrants hold a bachelor's degree compared with 50 percent of their native counterparts, and 19 percent of black immigrants hold a bachelor's degree compared with 16 percent of their native counterparts.

This distinction between the education trends of native-born and foreign-born Hispanics is important because it affects the average education levels of Hispanics as a whole (illustrated by the gray line in the chart) and underestimates the performance of those Hispanics that are in the U.S. school system. The age group for which data are collected (typically 25 to 29 years old) includes a large share of Hispanic immigrants with low levels of education, many of whom never entered the U.S. school system. They have a strong downward effect on the average education levels of Hispanics as a whole and are a key contributing factor to the gap in educational attainment between Hispanics and other groups. The 1998 estimate of 10.3 percent of Hispanics aged 25 to 29 holding a bachelor's degree is three times lower than the 32 percent for non-Hispanic whites and 30 percent lower than the actual share of Hispanic natives who complete a bachelor's degree

in the United States. Native-born Hispanics, however, still have a large gap compared with other racial/ethnic groups.

These differences in educational attainment between Hispanic immigrants and natives also underline the importance of monitoring their progress separately. For immigrants, educational attainment can be affected through education policies, immigration policies, or both; for Hispanic natives, on the other hand, attainment will be primarily affected by education policies.

The Educational Progress of Hispanics Stalled in the 1990s

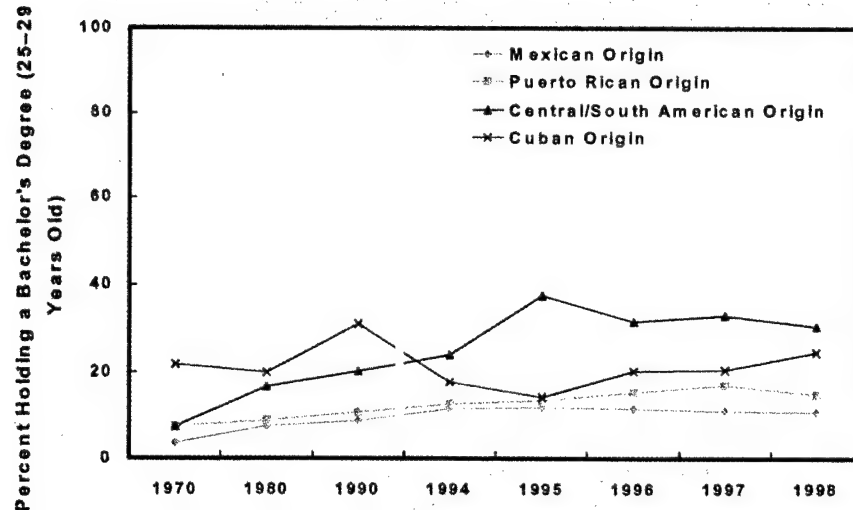


This figure focuses strictly on the educational attainment of native-born Hispanics relative to other racial/ethnic groups over a 28-year period. (Notice that the first three data points cover 20 years, and the last five cover the most recent eight years.) As the figure shows, Hispanic natives made dramatic progress in the 20 years between 1970 and 1990—in fact, they experienced greater increases in the rate of college graduation than any other racial/ethnic group. By 1990, the gap between Hispanic natives and non-Hispanic whites had declined to 11 percentage points (compared with 14 percentage points in 1970). Since 1990, however, Hispanic natives have made no further progress. They have also lost ground relative to other racial/ethnic groups. Today, the gap between Hispanic natives and non-Hispanic whites has increased to 18 percentage points, a larger gap than in 1970.

These negative trends for Hispanics coincide with a rapid growth in the Hispanic college-age population and increased competition for college admission.

In contrast to Hispanic natives, there has been no increase in the share of Hispanic immigrants holding a bachelor's degree over the past 30 years of growing Hispanic immigration.

Hispanics from Different Countries of Origin Have Different College-Completion Rates



Just as there are significant differences in the educational achievement of Hispanic immigrants and natives, there are also significant differences among Hispanics from different countries of origin. As shown in the figure above, the proportion of native-born Hispanics from Mexican and Puerto Rican origins who hold a bachelor's degree is two to three times lower than the proportion of native-born Hispanics with Cuban or South and Central American backgrounds. Together, Hispanics originally from Mexico and Puerto Rico account for 80 percent of all Hispanics in the United States.

These differences in college graduation rates between Hispanics of different origins are important partly because Hispanics from different countries of origin concentrate in different states. Two-thirds of Hispanics who originally emigrated from Mexico reside in California and Texas, while half the Hispanics originally from Puerto Rico reside in the New York/New Jersey metropolitan area. On the other hand, two-thirds of Hispanics originally from Cuba reside in Florida. Hispanics of Central and South American origins are more evenly distributed across the nation, although nearly two-thirds reside in California, New York, and Florida.

These differences suggest that what will take place in California, New York, and Texas will largely determine whether the goal of doubling the rate at which Hispanics earn a bachelor's degree is eventually reached.

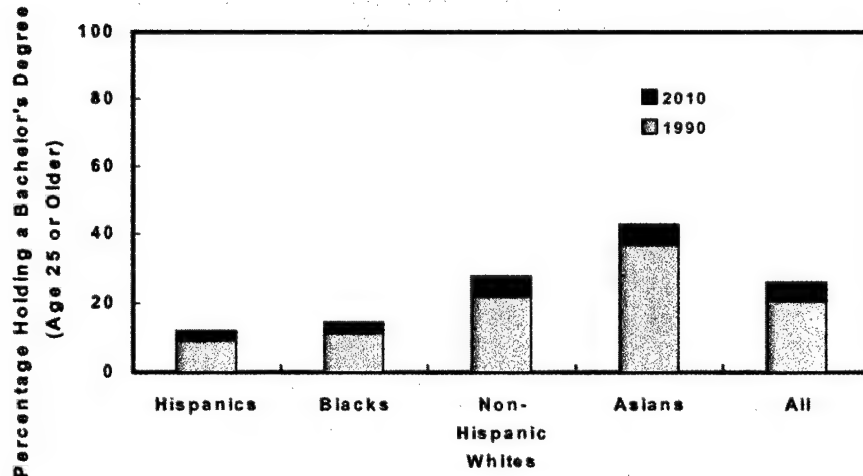
III. WHAT WOULD BE THE EFFECTS OF THESE TRENDS IF THEY CONTINUE FOR THE NEXT DECADE?

The trends we have described in minority demographics and education have raised concerns about the future quality of the labor force and the continued health of the U.S. economy. In this section, we show that the work force will become increasingly more educated. Projecting today's trends over the next 10 years suggests that all racial/ethnic adult groups (age 25 or older) will see an increase in their share of college graduates holding a bachelor's degree as well as an increase in their share of high-school graduates.

However, a continuation of current trends will also increase the gap in educational attainment between Hispanics and other racial/ethnic groups. If this happens, Hispanics and blacks will remain on the lower end of the income scale and Asians and non-Hispanic whites on the upper end.

The projections that follow should not be viewed as a description of what is likely to occur but as a picture of what might happen if current behavior and policies are not altered. Future projections of this kind are always based on assumptions about trends in immigration, fertility rates, morbidity, and educational performance that may not hold true.¹²

The Share of the Working-Age Population Holding a Bachelor's Degree Is Expected to Increase for All Groups...



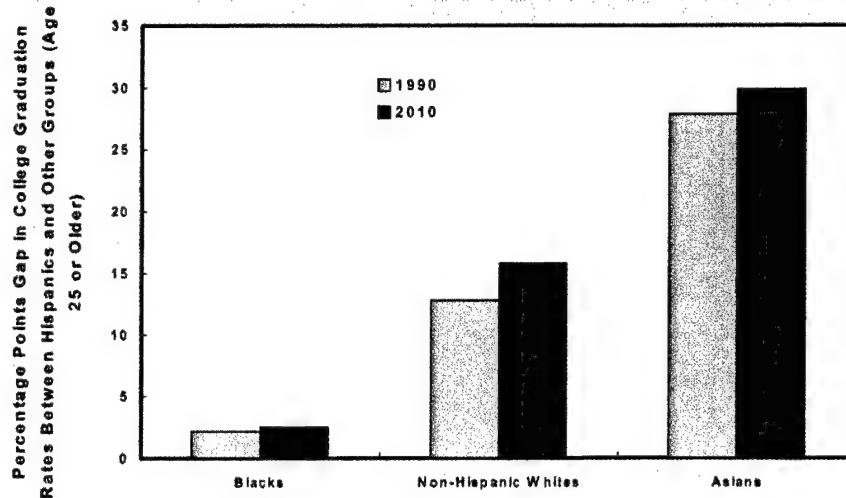
The share of the working-age population (age 25 or older) holding a bachelor's degree is projected to continue to increase over the next 10 years to about 25 percent in year 2010, up from 20 percent in 1990, despite the demographic trends and stagnation in educational attainment for some groups described earlier. All racial/ethnic groups are projected to contribute to this increase. Hispanics of working age holding a bachelor's degree are projected to increase by one-third to 12 percent in 2010 (up from 9 percent in 1990). The increase is projected to be larger for Asians (43 percent), for non-Hispanic whites (29 percent), and for blacks (15 percent).

These projected increases are the products of the intergenerational process that replaces less-educated older generations with more-educated younger generations. Nowhere is this process more at play than among Hispanics, where immigrants with less than 12 years of education are being replaced by their children, more of whom will graduate from high school and attend college than their parents' generation did.

This intergenerational process will have a stronger upward effect on educational attainment of the labor force than the downward effect created by increasing minorities with a low level of educational attainment in the population.

These projections assume that the nation's postsecondary institutions will be able to accommodate the 10 percent increase in enrollment that is projected to occur nationwide as a result of population growth. This assumption, however, may not hold, particularly in the states with the greatest future growth in the college-bound population. California, for example, will be faced with an up to 30 percent increase in its college-going population.¹³ If this population growth restricts access to college, as some fear, then the projected increases in educational attainment estimated above may not fully materialize.

...But the Gap in College Graduation Rates Between Hispanics and Other Groups Is Projected to Increase



The gap between the percentage of Hispanics who complete college with a bachelor's degree and the percentage of other minority groups who complete college is expected to grow. The pairs of bars in the figure above show the differences in that gap between 1990 and 2010 between Hispanics and blacks, Hispanics and non-Hispanic whites, and Hispanics and Asians. The gap between Hispanics and non-Hispanic whites is expected to increase from 13 percentage points in 1990 to 16 percentage points in 2010. A similar increase is projected relative to Asians, but no significant increase is projected relative to blacks.

The net result of these trends is that Asians and non-Hispanic whites will contribute 80 percent of the projected increase in the number of college graduates—a trend that will accentuate the economic disparities among racial/ethnic groups.

At the other end of the educational distribution, however, the gap in the share of high school graduates between Hispanics and other racial/ethnic groups is projected to diminish as the share of high school graduates among Hispanics increases from 55 percent in 1998 to 65 percent in 2010. Even so, the share of Hispanics among high school dropouts is projected to double from 15 percent in 1990 to 32 percent in 2010. Hispanics are the only racial/ethnic group expected to drop out of high school in greater numbers (up by 15 percent) between 2000 and 2010. The number of high school dropouts from all other racial/ethnic groups is projected to decline.

IV. WHAT WOULD BE THE BENEFITS AND COSTS OF MEETING THE GOAL?

Doubling the rate at which Hispanics earn a bachelor's degree would bring many tangible economic and social benefits to the nation and to the individuals involved. Education is the single most important factor in providing the skills and knowledge needed by the nation's economy and in determining the level of individual income. Higher levels of education are also associated with better health, better job satisfaction, and participation in civic and commercial activities.¹⁴ Other social benefits include savings in public welfare and health programs, increased tax revenues, and decreased income inequalities between racial/ethnic groups. Finally, an ethnic community would gain a cumulative number of leaders, role models, and mentors for Hispanic youth to emulate, further increasing the educational attainment of future generations.

Meeting the goal, however, will require proactive interventions at all levels of education: in high school, at the transition between high school and college, and in college. Unless strategies are applied at all levels, only partial progress can be made. Most current programs focus exclusively on high school students. A few programs are designed to improve the transition between high school and college, but very few exist at the college level.

Meeting the goal will also require significant increases in enrollment in the nation's colleges and universities, with the impact disproportionately felt in the five core states. These increases in enrollment would be in addition to the projected increased enrollment resulting from increases in the size of college-age cohorts. The public investments needed to accommodate the expected increase in enrollment, however, would be recouped several times over in the form of savings in public welfare and health programs and increased tax revenues.

Benefits of Fully Meeting the Goal

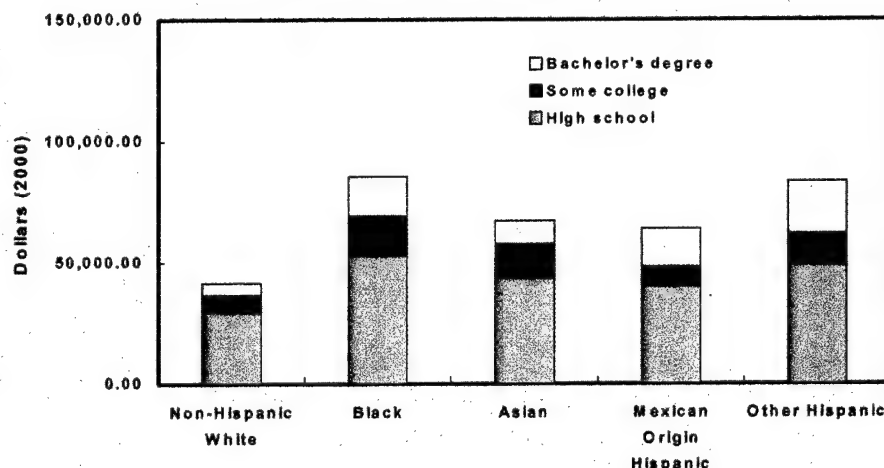
- Savings in public expenditures
- Increase in tax revenues
- Increase in disposable income
- Reduction in income disparities

This research quantified the following benefits of doubling the number of bachelor's degrees among Hispanics:

- Reductions in public expenditures on welfare, health, and law enforcement programs
- Increases in federal, state, and local taxes
- Increases in personal disposable income
- Decreases in educational and income disparities between racial/ethnic groups.

The first two benefits provide *public* revenues that can compensate for the increased public costs of increasing the educational attainment of Hispanics. The third benefit accrues primarily to the individual acquiring the additional education in the form of more income, but also provides public economic and social benefits through higher consumption levels and a higher standard of living. The last benefit represents a public good in that it would decrease the racial/ethnic polarization that may undermine the nation's social and political cohesion.

Lifetime Savings in Social and Health Programs with Educational Increases of Native-Born Women



Clearly, higher levels of education translate into lower public expenditures over an individual's lifetime.¹⁵ To illustrate, the bars in the figure above represent the present values (in 2000 dollars) of the total lifetime savings in public welfare, health, and law enforcement (prisons and jails), when native-born women¹⁶ of differing racial/ethnic groups increase their education to high school graduation, two years of college, or college graduation with a bachelor's degree. The programs included in these estimates include:

- Public assistance, including Supplemental Security Income (SSI)
- Food programs, including food stamps and the Women, Infants, and Children (WIC) program
- School breakfast and lunch programs
- Federal and state unemployment insurance
- Low-income energy assistance
- Social security
- Medicaid
- Medicare
- Federal and state prisons and county or municipal jails.

For women of all racial/ethnic groups, the greatest savings in government spending on all the programs above come from high school completion: Those who lack a high school diploma have extremely poor economic prospects and, thus, tend to be far more dependent on public assistance and health programs. Those with some college have better prospects than do high school graduates, but the additional savings from acquiring

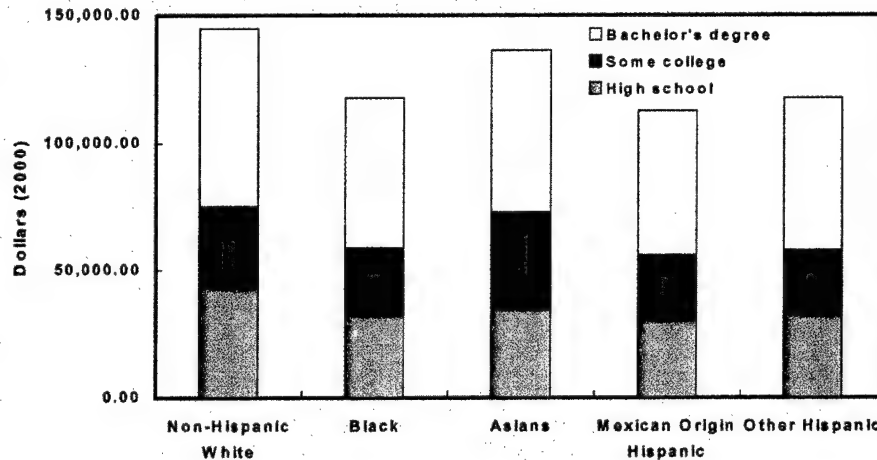
education above a high school diploma are smaller than the additional savings between high school dropouts and high school graduates. Similarly, because women with some college participate in public programs at much lower rates than do less-educated women, college graduation produces fewer further savings in public programs.

There are differences between racial/ethnic groups in the lifetime savings from increased education, reflecting differences in the likelihood of participating in public programs by women at the same level of education. Savings in public spending due to increased education are highest for black native-born women and lowest for non-Hispanic white native women. Also, native-born Hispanic women not of Mexican origin are more likely to draw on services than are native-born women of Mexican origin.

Generally, the pattern of savings in government spending associated with increased education illustrated above for native-born women holds for foreign-born women as well.

On the other hand, savings for native-born men who graduate from high school instead of dropping out are larger than for women because male high school dropouts are more likely to be incarcerated. Sixty percent of the prison population consists of high school dropouts. For men, additional savings between high school and some college or some college and graduating with a bachelor's degree are similar to those of women.

Increased Lifetime Government Revenues with Educational Increases of Native-Born Men



Public revenues—in the form of federal and state income, property, and sales taxes and contributions to social insurance programs such as Medicare and Social Security—also increase with educational attainment.¹⁷ Again, the bars in the above figure represent the total lifetime increases in public revenues (expressed in 2000 dollars) when a native-born man increases his education to high school graduation, two years of college, or college graduation with a bachelor's degree. The increases in public revenues are substantial at every additional level of education. The largest relative increase occurs between those with some college and college graduates, reflecting the disproportionate income growth for college graduates versus those with some college.

There are some differences in the increase in tax revenues between racial/ethnic groups, with the increases being 10 to 20 percent *lower* for Hispanics and blacks than for Asians and non-Hispanic whites. These differences reflect the lower per-person income commanded by these two groups even after accounting for level of education. For instance, blacks and Hispanics who are high school graduates earn annual incomes that are more than 30 percent lower than those of Asians and non-Hispanic whites with the same education.

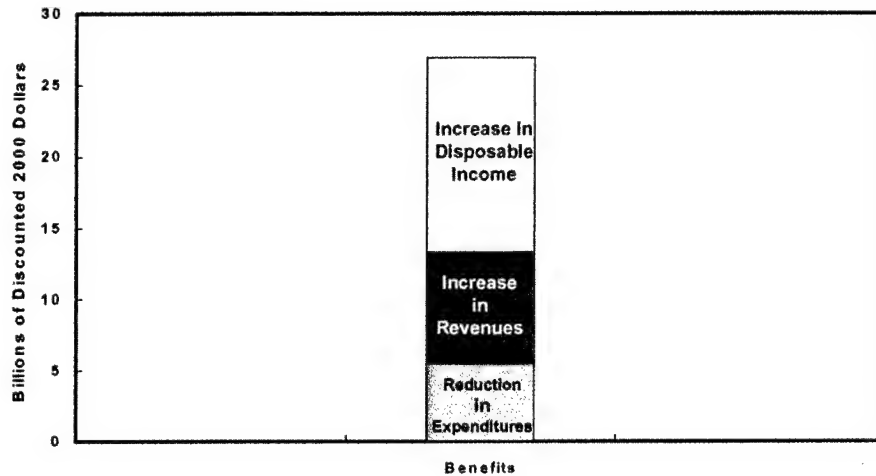
Also, the increases in per-person public revenues are typically greater for women than for men; and within ethnic groups, they are greater for the native-born than for immigrants. The differentials are not large, however, falling in the 5 to 7 percent range.

Combining the effects of increased education on public spending and revenues that were summarized above yields the total public benefits taxpayers would realize if the educational levels were increased for any Hispanic or other groups. On average, each time a Hispanic native-born woman who would have dropped out of high school is helped to obtain a high school diploma, the public gain is \$80,500 over her lifetime in reduced costs for public services and increased revenues (in 2000 present-value dollars).

Providing her with two years of college instead of stopping at high school would add another \$43,000 in public gains, and helping her to graduate from college with a bachelor's degree would add yet another \$64,000 in public gains. For men, the public benefits are even higher.

In addition to public benefits, increases in education lead to higher income for those who acquire the higher education, providing these individuals with sizable increases in after-tax disposable income for their families and themselves. An increase in education from some college coursework to college graduation with a bachelor's degree, for instance, produces a larger jump in income (1.5 times the income) than keeping a student in high school through graduation instead of his or her dropping out.

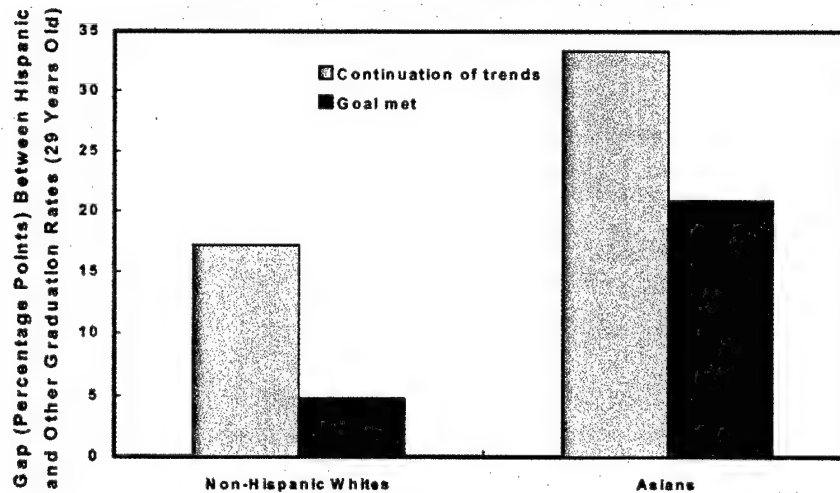
Monetary Benefits of Fully Meeting the Goal Are Large



Combining these individual benefits for a cohort of Hispanics—for example, those graduating in 2010—would yield about \$13 billion in present-value dollars: \$5.4 billion in reduced public spending for social and health programs and \$7.6 billion in increased tax contributions.

In addition, the disposable income of this Hispanic cohort over the cohort's lifetime would be equally sizable at nearly \$14 billion (in 2000 dollars).

Gap in College Graduation Rates (Hispanics Versus Other Groups) Would Significantly Decrease



Doubling the rate at which Hispanics graduate with a bachelor's degree would reduce the college gap between Hispanics and Asians by nearly half, and reduce the gap significantly between Hispanics and non-Hispanic whites, closing it by more than two-thirds.

Similarly, the gap between the percentage of Hispanics with high school diplomas and non-Hispanic whites with high school diplomas would decline by 55 percent (from 22 percentage points to 10 percentage points). In turn, the gap between Hispanics with some college and non-Hispanic whites with some college would decline by 80 percent as the share of Hispanics with some college increases from 39 percent to 58 percent.

Where to Focus Strategies to Double the Rate of Hispanics Earning a Bachelor's Degree?

- Middle and high school?
- Transition from high school to college?
- College retention?
- A combination of the above?
 - High school and high school to college transition
 - High school to college transition and college transition
 - All levels

Against these tangible benefits, additional resources would have to be spent in order to increase the rate at which Hispanics graduate from college. To determine the feasibility and the resources needed to double the rate at which Hispanics earn a bachelor's degree, we assessed several strategies. The first strategy concentrates on the middle school and high school levels by improving the preparation of Hispanics for college and increasing the rate at which they graduate from high school. Most of today's programs and policies are designed to improve the educational achievement and attainment of at-risk students at this level of their education—by such means as class size reduction, high-stakes yearly assessments of achievement, alternative schools, and dropout prevention programs. The latter provide academic remediation, counseling, mentoring, peer tutoring, internships, parent outreach, after-school activities, and/or money incentives.

A second strategy focuses on the transition from high school to college. It is addressed to those students who are already high school graduates, many of whom are eligible for, but do not currently go to college. A number of programs—such as Puente in California, College Reach Out Program (CROP) in Florida, and the federal “Upward Bound” program—encourage eligible students to go to college. These interventions typically start when students who have been identified by their teachers to have average or above average academic achievement are in their junior or senior years of high school. They provide a combination of support services including test-taking preparation, remedial courses, summer courses, tutoring and counseling, and/or frequent trips to colleges. Some of these programs may also include monetary incentives in the form of scholarships.

A third strategy focuses on college retention. This strategy aims to increase the rate at which Hispanic students persist in college, including the rate at which Hispanic

students transfer from two-year colleges, which they attend in larger proportion than youths from other racial/ethnic groups. Although many colleges and universities have implemented programs to facilitate the adaptation of minority students to college life and many offer remedial and study skill courses (mostly in the freshman year), these efforts are relatively small and their effectiveness has yet to be evaluated.¹⁸

We also assessed the costs and benefits of various combinations of these three strategies: (1) focusing on both the high school years and the transition to college; (2) focusing on both the transition to college and college retention; and (3) focusing on all three levels at once. Altogether, we assessed the relative contribution of six different strategies.

Approaches to Strategy Assessment

- Extent to which strategy meets the goal
- Enrollment in high schools and colleges
- Benefits and costs

To assess the relative contribution of each of the six strategies just described toward meeting the goal of doubling the rate at which Hispanics earn a bachelor's degree, we first assessed the effect of equalizing the performance of Hispanics to that of non-Hispanic whites on the Hispanic college graduation rate. We chose the rates at which non-Hispanic whites graduate from college, and/or go to college, and/or persist in college through graduation with a bachelor's degree as maximum measures of what might be feasible to accomplish, at least within the next decade.

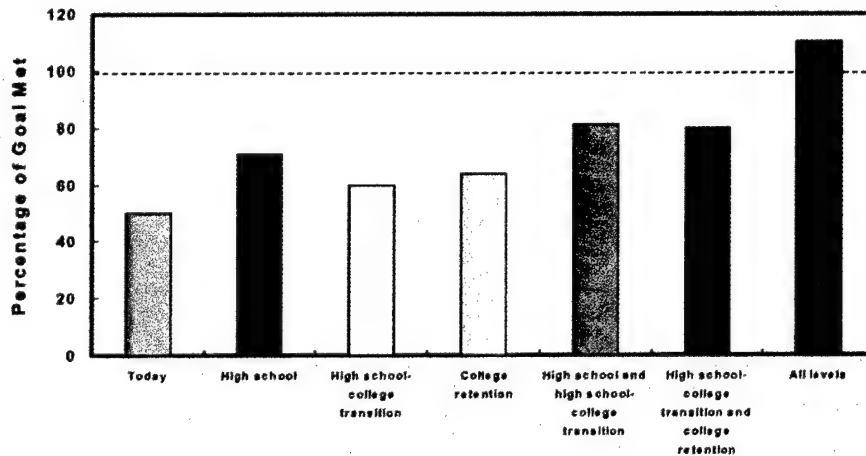
The evaluation was performed using the RAND Education Simulation Model, a dynamic model of the flows of the U.S. population through the secondary and postsecondary education systems. It simulates the detailed flows of students into and out of each high school grade and college level. For each of 24 race/ethnic, nativity, and gender groups, age groups and grade, and each year, the model projects the number of students who remain in a grade for another year, the number who leave school, and the number who continue on to the next grade. The model projects the level of education achieved when people leave the education system.¹⁹

The model also provides two other critical outcomes: the enrollment of full-time equivalent (FTE) students in each year considered and the costs of this level of enrollment. Finally, using estimates of the relationship between educational attainment and spending on public social programs, tax revenues, and individual income, as discussed earlier, the model projects the benefits and costs of changing the distribution of educational attainment.

Models of this type are sensitive to the demographic assumptions about the annual flow and composition of immigration, birth and morbidity rates, and the rates at which different groups move from one level of education to the next. The model's demographic assumptions are conservative in the sense that they correspond closely to the low-level

projection made by the U.S. Department of the Census. Recent trends suggest that growth in the Hispanic population relative to other groups has been faster than is implied by our model. The model's initial educational performance assumptions for all groups are those of the mid- to late-1990s.

Extent to Which Alternative Strategies Meet the Goal

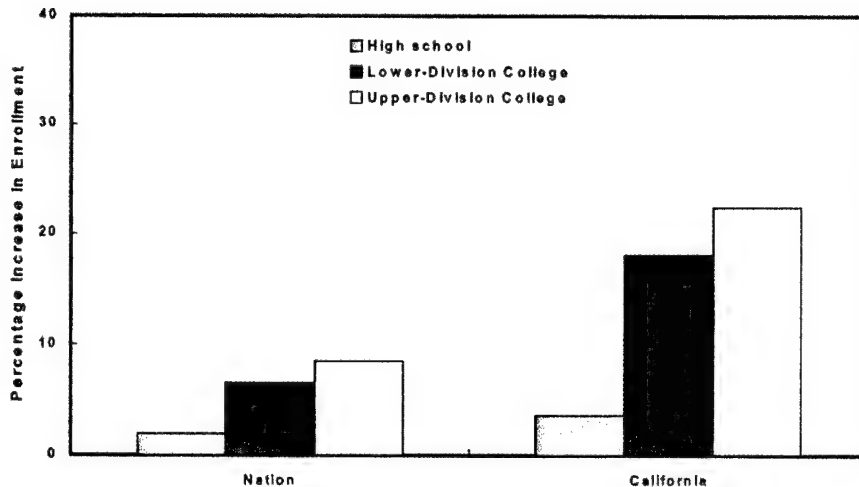


NOTE: Each strategy assumes the performance of Hispanics would equal that of non-Hispanic whites.

Hispanics will have to improve their performance at all levels of education in order to double the rate at which they earn a bachelor's degree. For example, Hispanics will have to close the current gap between themselves and non-Hispanic whites by 85 percent in several different categories—high school graduation, college attendance, and college graduation rates—in order to meet this goal. Moreover, Hispanic immigrants will have to complete as much of their education in the United States as native-born Hispanics of similar age and education level.

All other strategies considered would make only partial progress toward fulfilling the goal. Nevertheless, one observation arises from comparing their contributions that is relevant to both short-term and long-term investments and policy decisions: Two strategies appear to be equally effective—(1) focusing intervention solely toward increasing the rate at which Hispanics graduate from high school and (2) focusing intervention solely on increasing the rate at which Hispanic students already enrolled in college persist in college through graduation with a bachelor's degree. As noted earlier, interventions that have focused on the first alternative have received the bulk of attention and resources, and mixed results for Hispanics. (Blacks, however, have seen their high school graduation rates increase significantly over the past two decades.) This analysis suggests that focusing more attention on college retention has equal potential for increasing the rate at which Hispanics earn a bachelor's degree. It is also equally effective when combined with the strategy that focuses on increasing the rate at which Hispanics attend college. As will be shown in the following analysis, the college retention strategy has the additional benefit of being less expensive.

Effects on Enrollment If the Goal is Achieved



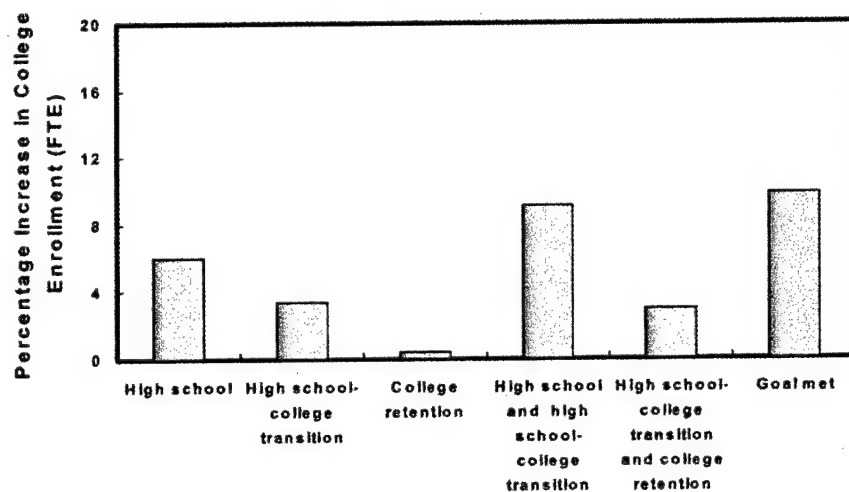
Doubling the rate at which Hispanics earn a bachelor's degree will mean increases in enrollment of about 2 percent in the nation's high schools, 7 percent in lower-division colleges (first two years that include two-year colleges), and 9 percent in upper-division colleges. These increases in enrollment would be in addition to the 10 percent increase required to accommodate the increase in the number of college-age students over the next decade. Projected increases of this magnitude are unlikely to be met without increasing the capacity of postsecondary institutions throughout the nation.

The increased enrollment required to meet the goal would not be distributed evenly throughout the nation's high schools and colleges. In California, which will educate 40 percent of the nation's Hispanics, meeting the goal would mean increases in enrollment of 4 percent in K to 12 (mostly in high schools), 18 percent in lower-division colleges (including community colleges), and 22 percent in upper-division colleges. Again, these increases are in addition to the approximately 30 percent increase needed to meet the increase in the size of the college-age population at current college-going rates.

Like California, the four other states with relatively large Hispanic populations would also have to accommodate increases in enrollment that are higher than the average for the nation as a whole, but somewhat smaller than California.

The resources needed to meet demands of these magnitudes will depend on the share of the enrollment increase that can be met within the existing institutional infrastructure and the share that may require either expanding existing institutions or building new institutions. In the first instance, the costs to accommodate additional students would be somewhat less than proportional to the increase in enrollment. But if new infrastructure needs to be constructed, the costs would be more than proportional to the increase in enrollment required. In all cases, the increase in public and private educational investments would be sizable.

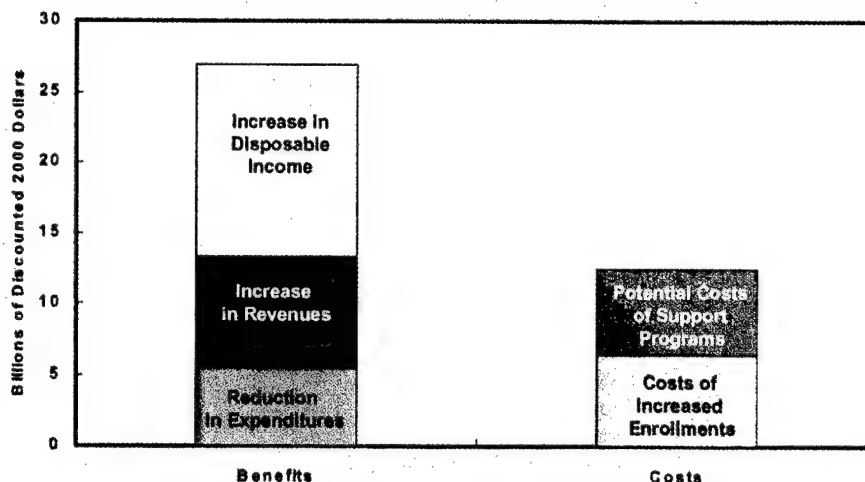
Effect of Different Strategies on College Enrollment



The figure above illustrates the effects of all six strategies on college enrollment. As it shows, the first strategy, which focuses on increasing the number of high school graduates, would require greater increases in college enrollment (6 percent nationwide) than the third strategy, improving college retention (less than 1 percent). The reason, of course, is that virtually no additional college enrollment is needed when focusing on students already going to college.

Consequently, the college retention strategy would be much less expensive to implement than the high school graduation strategy. Besides increasing the numbers of students who would have to be accommodated by colleges, the high school graduation strategy would also increase the numbers of students in high school.

Benefits and Costs of Fully Meeting the Goal



Additional resources would have to be spent to accommodate the increase in school and college enrollment that doubling the rate at which Hispanics earn a bachelor's degree implies. To estimate these costs, we used cost estimates that are representative of per-student spending in California for three levels of schooling: high school, lower-division college (including community colleges), and upper-division college. These estimates are for the direct costs of school—the capital and operating expenses of providing for an individual's education. Although families pay for an important fraction of the costs of college, we assumed that taxpayers would have to subsidize all the costs of education for those who would not otherwise finish high school or go on to college.

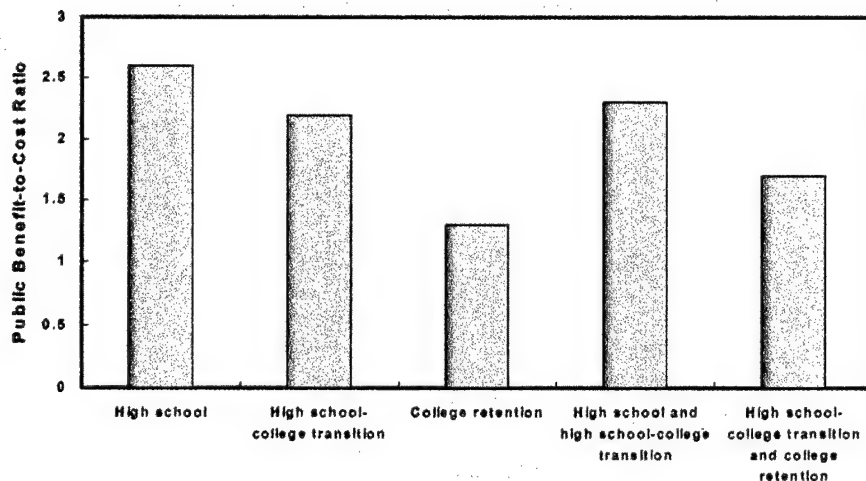
Overall, the cost of doubling the rate at which the Hispanic cohort discussed above earned a bachelor's degree was estimated at \$6.5 billion. In the figure above, these costs are contrasted with the benefits—including savings in social programs and increases in tax revenues and disposable income—shown earlier. Every dollar spent for successfully doubling the college graduation rates of Hispanics would save about \$2.10 in today's dollars for a public benefit-to-cost ratio of 2 to 1. The societal (public plus private) benefit-to-cost ratio is even larger—4 to 1.

The additional expenses for education estimated above are spread over a short period of time in the early adolescent and adult lives of the students, while the benefits are spread over their lifetimes. The question arises as to how many years it would take for the public, and society more generally, to recoup the increased public investment made in the education of Hispanics. The answer is about 13 to 15 years. In other words, the public recovers its investments when the individual who graduated from college (by the age of 22 or so) reaches his or her mid-thirties.

The above cost estimates exclude the cost of programs that may be needed to motivate individuals to continue their education and to provide the additional academic

and social support they may need to progress in their education. These programs may cost anywhere from \$300 to \$6,000 per student and might add several billions dollars to the costs of reaching the goal set.²⁰ For instance, if it were necessary to spend on average \$1,000 in additional support programs for each additional Hispanic youth completing a bachelor's degree, the cost would be an additional \$1 billion for a cohort of Hispanics. Even if an additional \$6,000 were spent on each Hispanic student to achieve the goal, the public benefit-to-cost ratio would still be positive.

More-Modest Achievement of the Goal Would Also Produce Benefits That Exceed Costs



All of the other strategies considered also yield benefit-to-cost ratios that exceed 1, although they meet the goal only partially. Encouraging high school students to graduate yields the highest public benefit-to-cost ratio. This is because the savings in public expenditures are at their highest when educational attainment is increased from high school dropout to high school graduate.

The lowest public benefit-to-cost ratio is achieved by concentrating on students who are already in college. The reason for this is that savings in public expenditures are at their lowest when education is increased from some college to college graduate. In this case, most of the public benefits accrue in the form of tax revenues. But this is also the least expensive alternative to implement.

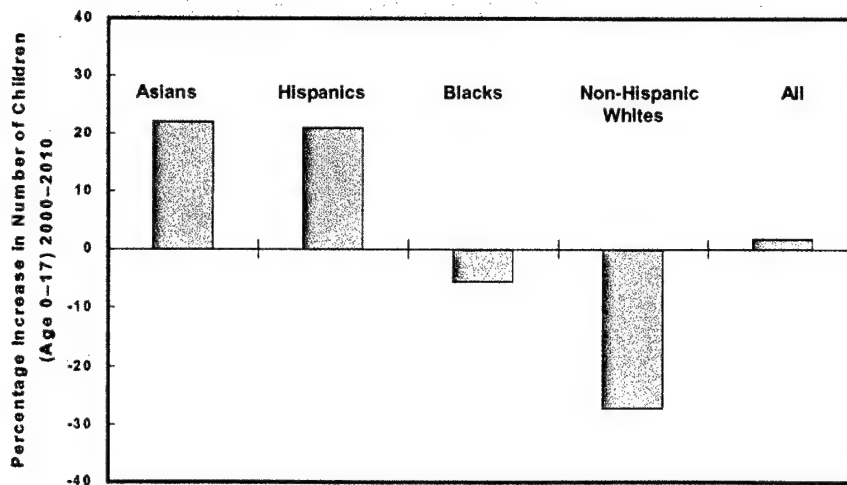
V. WHAT ARE THE MAIN ROADBLOCKS TO ACHIEVING THE GOAL?

There are, of course, significant obstacles to overcome in order to succeed in meeting the established goal. Just adding capacity to the nation's education system will not suffice. A significant share of Hispanic children are at-risk, living in poor families with both parents lacking even a high school education. Even if they are eligible for college, many young Hispanics do not have the resources to take advantage of this opportunity. Also, disproportionate shares of Hispanics who currently enroll in college need remediation in both English and mathematics, and few receive it.

Many federal, state, local, and private-sector programs have been developed and implemented that seek to address one or more of these issues. With few exceptions, these programs are relatively small. Major increases in the number of students they serve would also be necessary to meet the goal. Unfortunately, few reliable evaluations are available to assist policymakers in choosing among these programs.

In this section, we elaborate on these issues.

The Number of Hispanic Children Whose Parents Have Less Than 12 Years of Education Is Projected to Increase



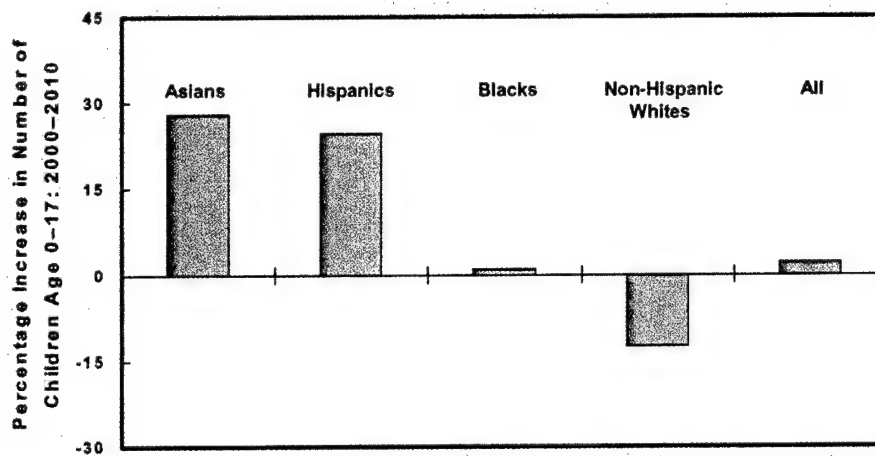
There is universal agreement in the research community that the level of education attained by parents is associated with the level of education eventually reached by their children.²¹ This relationship holds for all racial/ethnic groups. Parents with lower levels of education may be less likely to be able to assist their children in their academic pursuit, less able to expose them to various social settings, and less able to debate current issues and engage in other activities that promote children's knowledge and cognitive abilities. These parents also tend to be less knowledgeable to counsel their children about what courses they should take and what other college preparatory activities to engage in. These parents may also have less educational ambition for their children than parents from other racial/ethnic groups, although there is no evidence that that is the case.²²

Currently, about one out of every three Hispanic children (aged 0 to 17) are living in a family in which both parents have less than a high school education, compared with one in six black children, one in eight Asian children, and one in 20 non-Hispanic white children.

The number of Hispanic children of parents who have not finished high school is projected to increase by more than 20 percent over the next decade. In 2010, about half of the children living with such parents are projected to be Hispanic children—up from one-third in 1990.²³

Asians are the only other racial/ethnic group that is projected to experience an increase in the number of children living with parents who have less than a high school education, largely because of the influx of immigrants from Indochina who arrived with little education in the 1980s and whose children are now entering the nation's school system.

The Number of Poor Hispanic Children Is Also Projected to Increase

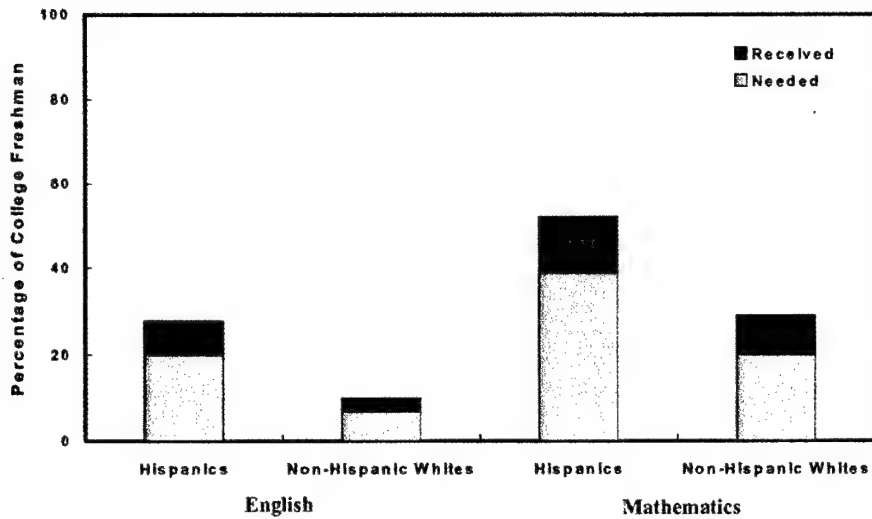


Poverty is another factor associated with the low educational attainment of children. And again, Hispanics are disproportionately raised in poor families. Currently, one out of two Hispanic children live in families in the lowest income quartile, compared with one in four for Asians, and one in five for non-Hispanic whites.

The number of Hispanic children (aged 0 to 17) in low-income families is also projected to increase by about 25 percent in the next decade, as is the number of Asian children similarly situated. By 2010, about 43 percent of Hispanic children are projected to live in families in the lowest income quartile. These children will account for one-third of all children living in such families.²⁴

These trends and those reviewed earlier regarding parental educational attainment signal a major compositional shift toward Hispanics in the racial/ethnic composition of children at risk. Increasing the college-going and graduation rates of these children will present a unique challenge that may require expansion of school-based and community-based after-school and other support programs. It also signals a significant increase in the need for financial assistance for college-bound students from this community.

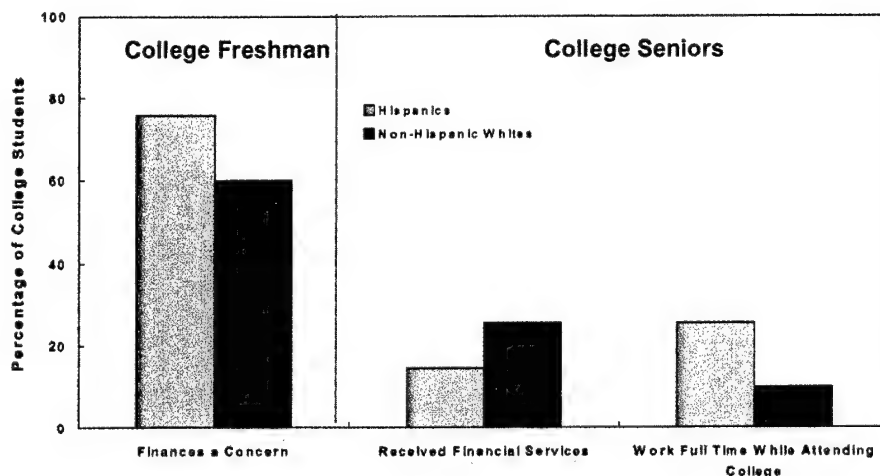
Many Hispanic College Freshman Need Remediation but Few Receive It



A disproportionate share of Hispanics enrolling in college need remediation in both English and mathematics. Reflecting the large number of Hispanic students born to immigrant parents, nearly two-thirds of Hispanic college freshmen reported needing remediation in English, compared with 10 percent for non-Hispanic whites. And more than half of the same Hispanic college freshmen reported needing remediation in mathematics, compared with 29 percent for non-Hispanic whites.²⁵

Typically, only about one-third of freshmen needing remediation, regardless of whether they are Hispanic or non-Hispanic white, reported actually taking remediation courses. This pattern suggests that either colleges are not equipped to meet the demand for remediation or students chose not to act on their needs. Either way, the result is a high dropout rate in the first year of college, and one that is higher for Hispanics than for non-Hispanic whites.

Paying For College Poses a Major Obstacle for Hispanics



Perhaps reflecting the increasing private costs of higher education,²⁶ a majority of college freshmen from all racial/ethnic groups are finding that finances are a major concern. However, and as expected given the disproportionate share of Hispanic children living in low-income families, 75 percent of Hispanic college freshmen have financial concerns, compared with 58 percent of their non-Hispanic white counterparts.²⁷

By their senior year, one-fourth of Hispanics report they are working full-time to support themselves in college compared with 10 percent for non-Hispanic whites. At the same time, non-Hispanic whites report they are twice as likely to have received financial services from their colleges as Hispanics.

Other Obstacles to Completing Four Years of College

- Inadequate academic advising
- Social adjustment is more difficult than academic adjustment
- Lack of study skills/habits
- Need for mentoring
- Few services are provided to transfers

To identify obstacles to Hispanics completing a bachelor's degree, the Institute for Latino Studies at Notre Dame University conducted focus groups with Hispanic freshmen and seniors at universities and colleges throughout the nation and interviewed staff providing support services.²⁸ In addition to the remediation and financial assistance issues just discussed, Hispanic students identified a number of other issues with their college experience. These were largely validated by the Freshman and Senior surveys administered by the Higher Education Research Institute in 1999.

About half of seniors surveyed reported being dissatisfied with the academic advising they received while in college. Dissatisfaction with advising was particularly true for students seeking guidance to pick a major or wanting to change majors. Also, many students complained that they received advice that was incomplete or incorrect, particularly from peers employed as part-timers by the colleges.

Most students in the focus groups identified social adjustment as being more difficult than academic adjustment in the first year of college. They underlined the importance of including a social component in summer orientation programs. According to college staff, however, these programs are generally underfunded and therefore restricted to a small number of participants.

Most students indicated that they came to college lacking the necessary study habits and saw their first-term GPA decline relative to their high school GPA. They indicated they needed help with developing better study habits and learning how to study cooperatively on class assignments, a practice they had little experience with in high school. Only about one out of four Hispanic college seniors surveyed reported they had received instruction in study skills.

Many students also stated a general absence of mentoring support of any kind, an activity that staff viewed as an essential ingredient for promoting higher graduation rates among minority students.

Finally, few, if any, services were reported as being available to students who transferred from another college, especially from two-year colleges. Although they had been in college for a year or two, these students were perceived to have similar adjustment problems and needs as freshmen. Hispanics are twice as likely to have transferred from another college than their non-Hispanic white counterparts, and hence are disproportionately affected by this absence of support services.

Generally, Hispanic college seniors report to have been less satisfied with their college experience than their non-Hispanic white counterparts. When seniors were asked "whether they would choose to re-enroll at this college," only one out of three Hispanic seniors responded "definitely yes" compared with one out of two non-Hispanic white seniors.

Effectiveness of Large-Scale College Programs Is Uncertain

- Few reliable evaluations have been conducted.
- Most programs evaluated were small/demonstration programs
 - Can they be replicated on a large scale?
- Programs evaluated suggest they have a positive effect on program participants.
- But, the size of the effects measured varies greatly.

Programs designed to increase, directly or indirectly, the educational attainment of at-risk and/or low-income students include Early Childhood programs for children at risk such as Head Start, high school dropout prevention programs, college-going incentive programs, and college retention programs. These programs vary in their objectives, time of intervention in the life of the students, and the range of services they provide. However, a hallmark of all these programs is that they offer a multiple and overlapping set of services ranging from tutoring and counseling to mentoring, remediation, internships, parental outreach, and monetary incentives.

However, it is not possible to identify which of these many programs would be most cost-effective in helping double the rate at which Hispanics earn a bachelor's degree because very few reliable program evaluations have been performed. The few evaluation studies that exist suggest that all four types of programs have a positive effect on the educational attainment of participants. The size of the effect measured, however, varies greatly within each type of intervention and across types of interventions. Also, given the small sample sizes employed by most of the available evaluations, it cannot be discounted that the interventions evaluated had no effect.²⁹

Early childhood programs were estimated to increase the high school graduation rate from 26 percent to 37 percent for individuals who otherwise would have a low graduation rate of about 50 percent. *School community-based high school dropout prevention* programs are estimated to decrease the dropout rate by 23 percent to 92 percent among students with a 12 percent to 29 percent pre-program probability of dropping out of high school. A smaller-size effect, varying from 3 percent to 63 percent, was measured for *alternative* schools that targeted students with a higher dropout rate ranging from 16 percent to 47 percent. Finally, *college-going* programs were found to

increase college-going from 7 percent to 70 percent, with the size of the effect being larger for students with a low pre-program probability of going to college.

The studies provide no information about why the measured effects vary so much across programs within a given type of intervention. Because the programs within each type of intervention offer a similar range of services, they provide no information on whether some support services may be more effective in increasing educational attainment than others.

The studies reviewed also provide limited information about what can be expected when small/pilot programs (the majority of programs actually evaluated) are scaled up to multiple locations serving a large number of students. The evaluations of early childhood programs measured a similar range of size effects for small- or large-scale programs. Some of the college-going programs evaluated were large-scale programs and their measured effects were just as large as for smaller programs. The suggested lack of association with size may simply reflect the practice that programs replicated on a large scale continue to be locally implemented and managed at either the school or community level. Hence, each site manages the program on a relatively small scale.

Similarly, there is surprisingly little reliable information on the costs of these programs so that the cost-effectiveness of the various types of interventions cannot be determined. The best that can be concluded from available information is that gains can be made by intervening at any level in the educational process and that it is not too late to intervene at the high school level or in the transition years from high school to college and beyond.

VI. RECOMMENDATIONS

The trends and issues we have described indicate that doubling the rate at which Hispanics earn a bachelor's degree will be a major challenge. Meeting this challenge will require a combination of increased government investments, greater attention paid to the college years, increased availability of financial aid, and better coordination between levels of education. It will also require developing a better understanding of which programs are likely to offer the most cost-effective means of achieving the goal.

Recommendation 1: *Raise public awareness of the need for greater investments in postsecondary education.*

Only concerted public effort can stimulate enough interest and support to develop and implement the programs needed to increase the educational achievement of Hispanics and other minorities. Over the past decade, policymakers and the public have focused almost exclusively on reforming the primary and secondary education system. The public is much less aware of the pressures of increased enrollments that the nation's colleges and universities are facing—pressures that threaten to close off access to higher education at a time when demand is increasing. Greater efforts should be made to inform the public of current demographic and economic trends and of the need to provide postsecondary institutions with the means to respond effectively to the growing demand for their services.

Recommendation 2: *Increase the capacity of the nation's postsecondary institutions, especially those located in California, Florida, Illinois, New York, and Texas.*

Simply accommodating the growth in the size of college-age cohorts while maintaining today's college-going patterns will require at least a 10 percent increase in the nation's college enrollment over the next decade. In the state of California, this increase is projected to be up to 30 percent. In addition, meeting the goal of doubling the rate at which Hispanics earn a bachelor's degree would add another 8 percent in college enrollments nationwide and 20 percent in California. Meeting such large increases in enrollments will require some combination of increases in class sizes; productivity gains achieved through structural reforms (for example, increased reliance on community colleges, specialization, sharing arrangements with institutions in states with excess capacity); and increased investments for operations and construction of new facilities. Accounting for increases in costs and the relative decline in public funding of postsecondary education, the Commission on National Investment in Higher Education estimated that simply meeting projected growth in the college-bound population would lead the nation's colleges and universities to a collective budget shortfall of \$25 billion by 2010, at least half of which may need to be met through increased public investments in higher education.³⁰

Recommendation 3: *Focus as much attention on keeping students in college as is currently given to preventing students from dropping out of high school.*

Both two-year and four-year colleges should focus more attention on retaining their students. Significant strides in increasing the share of Hispanics earning a bachelor's degree would be made if Hispanic students already enrolled in college persisted through

four years of college at the same rate as their white and Asian counterparts. The causes for dropping out of college are not well understood, but surely include inadequate level of financial assistance, inadequate academic preparation, and social adjustment difficulties. Many colleges have devised programs and activities to address these issues, but both students and college staff find these steps insufficient to achieve significant results.

Recommendation 4: *Coordinate interventions across levels of education.*

Doubling the rate at which Hispanics earn a bachelor's degree will require increases in Hispanic performance at all levels of education from primary school to high school, in the transition from high school to college, and in college. Although there are local instances of collaboration and coordination between individual high schools and colleges, each level of education has designed its programs with little attention to the next level of education. Greater systemic efforts should be made to ensure that students needing support continue to receive it when they move from one level of education to another. Research has generally concluded that one-time interventions have a short life span and that greater success is generally achieved by sustained intervention over time.

Recommendation 5: *Increase both the amount and the availability of financial assistance.*

Most Hispanic students headed for college need financial assistance not only in the first year of college, but throughout the four or more years of college it takes to graduate with a bachelor's degree. Today, the federal Pell grant covers less than 40 percent of the costs of a public four-year college education—down from 57 percent a decade ago. The remaining cost has to be met by institutional and private grants, family contribution, and/or work-study. Unmet needs—which must be met through student employment or commercial loans—are estimated to average more than \$3,800 for students of low-income families.³¹ Just to maintain today's college graduating rates of Hispanics will require a 40 percent increase in available financial assistance to Hispanic students by 2010. Assuming an average of \$5,507 for today's aid package to a student from a low-income family at a public four-year college, the cost of offering financial aid to Hispanic students in 2010 would be roughly \$170 million (in 2000 dollars). Meeting the rest of their unmet needs would require another \$117 million in financial assistance.

Doubling the rate at which Hispanics graduate with a bachelor's degree would add a conservative estimate of half a billion dollars in need for financial aid on an annual basis.

Recommendation 6: *Support expansion of high school-, community-, and college-based programs for at-risk students.*

Increased availability of financial aid is but one dimension, albeit critical, of what is needed to prepare Hispanic students to go to college, induce them to go to college, and keep them in college through graduation. There is also a need to expand outreach and support programs that provide counseling, mentoring, tutoring, and remediation—most particularly during the transition period from high school to college, during the transition period from two-year colleges to four-year colleges, and in college. Currently, these programs reach only a small share of the population that may benefit from these services.

Recommendation 7: *Support evaluations of existing programs and experimentation with new programs.*

A better understanding of the effectiveness of programs that have already been developed to help disadvantaged students at various stages in their education should be developed. To date, few reliable evaluations have examined the effects of current programs on college-going and persistence. Without such analysis, it is difficult to make wise decisions about which interventions to invest in and expand. Also, experimentation with new programs is needed to answer questions about the role of parents in their children's education. We do not yet know how to effectively compensate for disadvantages that stem from the low level of parents' education. This issue is critical because more than one-third of Hispanic children of school age will be living in families in which both parents have less than a high school education.

NOTES

¹ Council for Aid to Education, *Breaking the Social Contract: The Fiscal Crisis in Higher Education*, New York, NY, 1997.

² U.S. Bureau of the Census, <http://www.census.gov/population/socdemo/race>.

³ All projections to year 2010 were made using the RAND Education simulation model. These projections closely mirror the U.S. Bureau of the Census "low series" projections for the U.S. population. Early reports from the 2000 Census of population suggest that these projections are conservative, most particularly as the growth in the Hispanic population is concerned. For a full description of the RAND Education Simulation model, see G. Vernez, R. A. Krop, and C. P. Rydell, *Closing the Education Gap: Benefits and Costs*, Santa Monica, CA: RAND, MR-1036-EDU, 1999.

⁴ G. Vernez, *Immigrant Women in the U.S. Workforce: Who Struggles? Who Succeeds?* New York, NY: Lexington Books, 1999.

⁵ G. Vernez and A. Abrahamse, *How Immigrants Fare in U.S. Education*, Santa Monica, CA: RAND, MR-718-AMF, 1996.

⁶ G. Vernez, *Education's Hispanic Challenge*, The Jerome Levy Economics Institute of Bard College, Working Paper No. 228, 1998.

⁷ J. Durand and D. S. Massey, "The Changing Geography of Mexican Immigration to the United States: 1910–1996," *Social Science Quarterly*, 81(1): 1–15, 2000.

⁸ Vernez and Abrahamse, 1996.

⁹ Vernez and Abrahamse, 1996.

¹⁰ Vernez, 1999.

¹¹ All data in the remainder of this section are from the U.S. Bureau of the Census, *Public Use Sample* for 1970, 1980, and 1990, and *Current Population Surveys* for 1994–1998. The *Current Population Surveys* have collected data on place of birth only since 1994.

¹² All projections in this and the next sections were made using the RAND Education Simulation Model described in Vernez, Krop, and Rydell (1999). Briefly, the model uses cohort-survival methodology to keep track of the active U.S. population. In any given year, the inflows into the population are births and immigration, and the outflows are death and emigration. The model simulates the dynamic flows of students into and out of each school and college grade for 24 population groups differentiated by race/ethnicity, nativity, and gender. For each year, the model projects the number of students who remain in a grade for another year, the number who leave school, and the number who continue on to the next grade. It also projects the annual number of people who return to school at various levels after having been out of school for some time. In our projections, we used the birth and death rates that the U.S. Bureau of the Census used in making its "middle series" projection of the U.S. residents' population to year 2050. For immigration, we assumed an average 900,000 legal and illegal immigrants annually, a conservative estimate relative to trends in the 1990s; for education, the mid- to late-1990s education transition probabilities.

¹³ In just the past five years, admissions to the University of California alone have increased by 20 percent. *LA Times*, Wednesday, April 4, 2001, p. A18.

¹⁴ See, for instance, W. G. Bowen and D. Bok, *The Shape of the River: Long Term Consequences of Considering Race in College and University Admissions*, Princeton, N.J.: Princeton University Press, 1998.

¹⁵ For details on the derivation of these estimates, see R. A. Krop, *The Social Returns to Increased Investment in Education: Measuring the Effect of Education on the Cost of Social Programs*, Santa Monica, CA: RAND Graduate School, RGSD-138, 1998, and Vernez, Krop, and Rydell, 1999, Chapter 2.

¹⁶ To estimate public benefits, we analyzed the data for men and women separately because the effects of increasing the education of women are different. For example, keeping men in high school until they graduate produces much greater savings than doing the same for women. The reason for this difference is that men, particularly high school dropouts, are much more likely to be incarcerated. Increasing their education reduces the likelihood that they will go to prison and therefore accrues larger public savings.

¹⁷ Krop, 1998, and Vernez, Krop, and Rydell, 1999.

¹⁸ P. Garcia, *Understanding Obstacles and Barriers to Hispanic Baccalaureates*, Notre Dame, J.N.: Institute for Latino Studies, University of Notre Dame (forthcoming), and Appel, N. et al., *The Impact of Diversity on Students: A Preliminary Review of the Research Literature*, Washington D.C.: Association of American Colleges and Universities, 1996.

¹⁹ For details, see Vernez, Krop, and Rydell, 1999.

²⁰ L. Mizell and G. Vernez, *Increasing the Education Attainment of Hispanics: Program Effectiveness*, Santa Monica, CA: RAND, forthcoming.

²¹ For instance, see Vernez and Abrahamse, 1996; D. Grissmer et al., *Student Achievement and the Changing American Family*, Santa Monica, CA: RAND, MR-488-LE, 1994; and E. A. Hanushek, "The Trade-off Between Child Quantity and Quality," *Journal of Political Economy*, Vol. 100, pp. 84-117, 1992.

²² Vernez and Abrahamse, 1996.

²³ G. Vernez and R. Krop, *Projected Social Context for Education of Children: 1990-2015*, New York, NY: The College Board, 1999.

²⁴ Vernez and Krop, 1999.

²⁵ Garcia, forthcoming.

²⁶ For instance, see Council for Aid to Education, 1997.

²⁷ Garcia, forthcoming.

²⁸ Garcia, forthcoming.

²⁹ Mizell and Vernez, forthcoming.

³⁰ Council for Aid to Education, 1997.

³¹ Advisory Committee on Student Financial Assistance: *Leaving a Generation Behind? The Future of Educational Opportunity in America*, Washington, D.C., 2001